

## REMARKS

### Status of the Claims

In the Office Action, claims 1-18 were noted as pending in the application. Examiner makes a restriction requirement, stating that the claims comprise three separate groups of invention. Examiner groups claims 1-10 in a first group, claims 11-13 in a second group and claims 14-18 in a third group.

Applicant elects the first group, claims 1-10, with traverse.

The three groups are not independently and patentably distinct from one another because all the claims claim subject matter related to predictive load balancing. In each claim group, a value representing a future load on the network posed by a device connecting to the network is used to determine which of a plurality of channels the device should connect to. For example, in the first group, a value representing that a given device requesting to connect to the network is used to ensure that a given channel is not loaded with only MTA devices when other channels are loaded with only non-MTA device. Thus, the fact that a device is an MTA device predicts that it will probably need more bandwidth at a given time in the future compared with the bandwidth needs of a non-MTA device. In the second claim set within the first claim group, a device is assigned to a channel based on the cumulative bandwidth allocated to devices already connected to each of the plurality of channels. Thus, the fact that a requesting device is requesting new service predicts that it will add load to an already-loaded channel so it should be assigned to the lightest loaded channel.

In the second group of claims, the claims relate to similar subject matter inasmuch as they place connected devices to channels based on whether they are enabled for predictive load balancing and whether they are an MTA-device or not. Instead of making an initial channel assignment, channels are changed during operation as network conditions change (i.e., different traffic loading levels on various channels). Thus, the fact that a device is an MTA-device predicts that it will probably use more bandwidth in the future than a non-MTA device, thus it may be changed to a different channel than its current channel to balance the traffic loading on its present channel and its new channel.

In the third group of claims, a historical weighting value is used to predict a particular device's traffic impact at a given time of the day. Like the fact that a device is an MTA device predicts that it is likely to place higher loading on a network in the future as compared to a non-MTA device, a historical use history profile predicts that a given device may be higher at a given time of the day and thus should be changed to a different channel to balance network traffic among the plurality of channels.

Therefore, Applicant has shown that all of the claim groups are similar inasmuch as they all use a factor that represents a characteristic of the device to predict future loading by the device when it operates in the network. Thus, all of the claims would be properly classified under class 370, subclass 229 because they all relate to a CAC using a value representing a parameter concerning a device requesting to connect to a network.

For example, in claim 11, a CAC is still performing connection control, and the parameter that the CAC evaluates concerns assigning a device to a channel that currently serves the fewest subscriber devices using an MTA. In other words, the fact that a device is using an MTA (i.e., to processing a voice call) is the parameter evaluated by the CAC, but the MTA is not performing the connection control. Similar analysis applies to the third group. The CAC is performing the connection control, not the use history profile.

Accordingly, Applicant respectfully requests that Examiner remove the restriction requirement.

**SUMMARY**

For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance and that action is earnestly solicited.

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment please contact the undersigned at the mailing address, telephone, facsimile number, or e-mail address indicated below.

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Respectfully submitted,  
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